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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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423	7590	02/27/2004	EXAMINER	
HENKEL CORPORATION THE TRIAD, SUITE 200 2200 RENAISSANCE BLVD. GULPH MILLS, PA 19406			MUSSEY, BARBARA J	
			ART UNIT	PAPER NUMBER
			1733	

DATE MAILED: 02/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/787,248

Applicant(s)

KOLOWROT ET AL.

Examiner

Barbara J. Musser

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-35 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 15-35 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 15-35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Reading the specification it appears that the amorphous poly-alpha-olefin(APAO) is intended to have a needle penetration of 4-8 mm(see pg. 3, ll. 18-23), but the examples suggest the entire adhesive is intended to have that needle penetration.(Table 1b) This is particularly confusing since the trademarked materials used for the blends of APAOs, which should have a needle penetration of 4-8 mm according to the specification, do not have that needle penetration measured using the same test according to the table of properties obtained for these materials. Applicant is more specifically referred to the Vestoplast data sheets. It is noted that Genicel indicates the test of the table of properties(EN 1426), and the test in the claims(DN 52010) are the same. It would appear that applicant was not in possession and/or adequately described an amorphous poly-alpha-olefin having the needle penetration as claimed.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 15-20 and 22-35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Suzuki et al. as evidenced by Iwami et al. and Properties(Properties of Paraffinic SHELLFLEX Oils), and in view of either one of Sustic(U.S. Patent 5,723,546) or Riswick et al.(U.S. Patent 5,804,519) and Vestoplast.

Suzuki et al. discloses a sprayable hot melt adhesive with greater than 20wt% amorphous poly-alpha-olefin(APAO), less than 20 wt% oil, and 30-70wt% hydrocarbon resin tackifier used in making diapers.(Col. 7, ll. 27-Col. 8, ll. 10) The adhesive has a melt viscosity of 500-10,000 cp at 180°C.(Col. 1, ll. 65-67) The reference does not disclose the softening temperature of the hydrocarbon but does disclose it can be CLEARON (Col. 7, ll. 59; Col. 14, ll. 35) CLEARON P105 has a softening temperature of 105°C as evidenced by Iwami et al. which disclose CLEARON P105 has a softening temperature of 105°C.[0035]

The reference does not disclose the viscosity of the oil, but does disclose it can be a paraffinic SHELLFLEX oil.(Col. 8, ll. 3-4) Properties discloses that

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some paraffinic SHELLFLEX oils have viscosities of 19.4-70.3 mPas at 40C.(Table 1)

The reference does not disclose using a mixture of APAOs though it does disclose any conventional APAO can be used.(Col. 7, ll. 39-40) Sustic discloses a mixture of APAOs which can be used as an adhesive in a mix with tackifiers and waxes(Col. 3, ll. 34-35; Col. 4, ll. 6-9) and which has high tensile strength.(Col. 3, ll. 21-27; Abstract) Some of this mixture of APAOs can have softening temperatures of 70-140°C and a melt viscosity of 8,000-145,000 cp at 150°C.(Table 2) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the mixtures of APAOs of Sustic in the adhesive composition of Suzuki et al. since Suzuki et al. discloses any APAO can be used and since Sustic discloses that the mixtures of the reference have greater tensile strength than conventional APAOs(Col. 3, ll. 21-26) which would be useful in diapers so that the layers of the diaper do not separate in use. While the range of softening temperatures and melt viscosities of the APAO mixtures of Sustic encompass the claimed range, Suzuki et al. discloses the adhesive composition has a viscosity of 500-10,000 cp at 180C.(Abstract) Therefore one in the art would appreciate that the APAO mixtures of Sustic having the lower softening temperatures and melt viscosities would be used as otherwise the viscosity and softening temperature of the adhesive composition would be too high since the APAO mixture is more than 20% of the adhesive and too high a melt viscosity for the APAO mixture would result in a higher melt viscosity for the adhesive composition than is desired in Suzuki et al. While these APAOs do not

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have the claimed range using the claimed test, they are within the range of needle penetrations measured for the APAOs of applicant as shown by Vestoplast. Since the examples of applicant are presumed to fall within applicant's desired range and these examples have needle penetrations in the same range as Sustic, the needle penetrations of Sustic are presumed to fall within the claimed range. Additionally, applicant has presented no evidence that the needle penetrations of Sustic when measured using the test of applicant, would not provide needle penetrations within applicant's range.

Alternatively, Riswick et al. discloses an adhesive composition for bonding diapers having tackifiers and oils (Col. 3, ll. 39-40; Col. 4, ll. 12-13) and wherein one or more APAOs is used. (Col. 3, ll. 11-26) These APAOs include ones used by applicant. (Col. 3, ll. 11-26) It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a mixture of APAOs in the adhesive composition since Riswick et al. discloses the use of one or more APAOs in adhesive compositions used in diapers is well-known in the adhesive art. Since these materials are the same as applicant's, they would have the same properties and shown for example by Vestoplast.

Regarding claims 16, 20, 28, 31, and 35, one component of the APAO can have a number average molecular weight of above 15,000, and the ratio of weight average molecular weight to number average molecular weight is 6 or less. (Col. 5, ll. 55-65)

Regarding claim 17, as the viscosity of the adhesive can be 500 cp at 180°C, one in the art would appreciate that it would be less than 1,900 cp at

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150°C since the viscosity does not tend to rise appreciably with temperature until the components near their softening temperatures.

Regarding claim 18, one component of the APAO contains 30-90% butene and 90-30% propylene.(Col. 5, ll. 14-17)

Regarding claim 19, the APAO mixture can have a viscosity of 4,000-8,000 cp at 150°C and therefore would have a viscosity less than 15,000 cp at 190C.(Tables II and III)

Regarding claim 22, using medicinal white oils as the plasticizer is well-known and conventional in the adhesive arts. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use any well-known and conventional oil such as medicinal white oil as the plasticizer since such oils are well-known and conventional in the adhesive arts.

Regarding claim 23, the hydrocarbon can be a C9 based petroleum.(Col. 7, ll. 55)

Regarding claim 24, pigments and stabilizers are well-known and conventional additives to adhesives. It would have been obvious to one of ordinary skill in the art at the time the invention was made to add any well-known and conventional additives such as stabilizers or pigments to the adhesive since such additives are well-known and conventional in the adhesive arts.

Regarding claim 26, since the materials used are the same as applicant in the same proportions as applicant, the viscosity of the adhesive at 100°C would be in the same range as applicant's.

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Regarding claims 27, 29, 30, and 33, the adhesive is used to bond together a nonwoven and a polyethylene film.(Col. 6, ll. 35-61) The composite can be used in a diaper.(Col. 1, ll. 8) The adhesive is applied at a weight of 0.5-7 g/m².(Col. 3, ll. 14-19) The coating temperature can be 170°C.(Col. 12, ll., 66-67)

Regarding claim 32, the adhesive can be applied at a rate of 200 m/min.(Table 3) While the only coating temperature listed is 170, one in the art would appreciate that the adhesive could be applied at any temperature where the materials are liquid and capable of being sprayed. Absent unexpected results, the coating temperature is considered obvious.

Regarding claim 34, while the reference does not disclose the conditions under which the adhesive is mixed, one in the art would appreciate that the mixing would be done under an inert atmosphere since that would prevent reaction of the materials with oxygen as it well-known and conventional in the chemical arts.

Response to Arguments

5. Applicant's arguments filed 11/20/03 have been fully considered but they are not persuasive.

Regarding applicant's argument that the references do not disclose the claimed needle penetrations, the materials used in the references are the same as those of applicant and therefore would have the same needle penetrations as applicant's.

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Regarding applicant's argument that one would have to pick and choose in Sustic to achieve a mixture of APAOs within the desired range, one in the art would choose the APAO mixtures of Sustic having the lower softening temperatures and melt viscosities as otherwise the viscosity and softening temperature of the adhesive composition would be too high since the APAO mixture is more than 20% of the adhesive and too high a melt viscosity for the APAO mixture would result in a higher melt viscosity for the adhesive composition than is desired in Suzuki et al.

Regarding applicant's argument that Sustic provides no guidance as to which mixtures to choose, Suzuki et al. provides such guidance by requiring specific softening temperatures and melt viscosities for the adhesive composition, thus restricting the softening temperatures and melt viscosities which can be used for the APAOs.

Regarding applicant's argument that adhesive viscosity doubles with every ten degree drop in temperature, this is a general rule, not a hard fact. Additionally, even if the viscosity does double with every ten degree drop, the adhesive mixture would still fall within applicant's range since 500 cps at 180C would become 4000 cps at 150C, which is within applicant's range. Applicant has provided no evidence that the adhesive composition of the reference would necessarily have a viscosity outside applicant's range. Finally, viscosity does not always double with a decrease of ten degrees since water, molasses, syrup, lotions, etc. do not show such a pronounced increase in viscosity. Examiner is not aware of this doubling rule, and in any case it would be only a general rule,

meaning that is the common relationship, not that that is the only relationship.

There is no evidence that a decrease in thirty degrees would result in an increase in the viscosity by a factor of eight.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Barbara J. Musser** whose telephone number is **(571) 272-1222**. The examiner can normally be reached on Monday-Thursday; alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571)-272-1226. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


BJM



JEFF H. AFTERGUT
PRIMARY EXAMINER
GROUP 1300